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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/807,139	03/24/2004	Jaekwang Choi	2557-000215/US	2759
30593	7590	09/28/2006	EXAMINER	
HARNESS, DICKEY & PIERCE, P.L.C. P.O. BOX 8910 RESTON, VA 20195			GOUDREAU, GEORGE A	
			ART UNIT	PAPER NUMBER

1763

DATE MAILED: 09/28/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/807,139

Applicant(s)

CHOI ET AL.

Examiner

George A. Goudreau

Art Unit

1763

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 July 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 and 5-38 is/are pending in the application.
- 4a) Of the above claim(s) 12,13,18-27 and 32-38 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-3 and 11 is/are allowed.
- 6) ☒ Claim(s) 5-10,14-17 and 28-31 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

George A. Goudreau
GEORGE GOUDREAU
PRIMARY EXAMINER

9-06'

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 5, 14, and 28 are rejected under 35 U.S.C. 102(b) as being anticipated by Mizutari et. al. (JP 2001-110,760).

Mizutari et. al. disclose a process for cmp polishing a Si wafer with a cmp slurry with a pH of (8-12) which is comprised of the following components:

-H₂O,

-silica abrasive particle,

-a first non-ionic surfactant of the type which is claimed by the applicant with a MW of (1,000-10,000), and

-a second surfactant

They further disclose that the first ionic surfactant of the type, which is claimed by the applicant, may have two different molecular structures. Type I has a structure comprised of HO-(PO)_a-(EO)_b-(PO)_c-H where a, b, c have values of at least 1. This corresponds to the structure recited by applicant for formula IV.

Type II has a structure comprised of HO-(EO)_d-(PO)_e-(EO)_f-H where d, e, and f have values of at least 1. This corresponds to the structure recited by applicant for formula III. They further disclose that the type I surfactant may be used together in the same cmp slurry as the type II surfactant. Further, they disclose that (a+c)=(10-100), and b=(2-500). Also, they disclose that (d+f)=(10-100), and

e=(2-500). This is discussed specifically in the abstract; and discussed in general on pages 1-6.

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 6-10, 15-17, and 29-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over the reference as applied in paragraph 2 above.

The reference as applied in paragraph 2 above fail to disclose the specific usage of KOH to adjust the pH of the cmp slurry to the pHs which are specifically claimed by the applicant.

It would have been obvious to one skilled in the art to employ KOH to adjust the cmp slurry pH in the cmp slurry, which is taught above based upon the following. The usage of KOH to adjust the pH of a cmp slurry is conventional or at least well known in

the cmp polishing arts. (The examiner takes official notice in this regard.) Further, this simply represents the usage of an alternative, and at least equivalent means for adjusting the cmp slurry pH to the specific usage of other such means for doing such.

6. Claims 1-3, and 11 are allowed.
7. Applicant's arguments filed have been fully considered but they are not persuasive.

Applicant argues the following points regarding the examiner's previous rejection of their claimed subject matter.

Applicant does not believe that the Mizutani et. al. reference, which was previously used to reject applicant's claims, discloses the usage of surfactants of the type, which are claimed by the applicant as purported by the examiner.

Applicant further requests the examiner to specifically identify those portions of this reference, which specifically teach the subject matter in question.

The examiner must disagree.

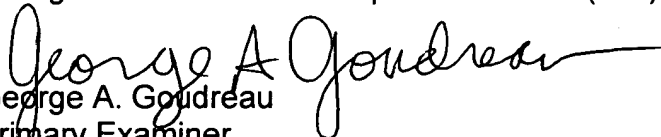
-The Mizutani et. al. reference does disclose the usage of surfactants of the type, which are specifically claimed by the applicant as detailed in paragraph 2 above.

Also, please see the machine translation of this patent in this regard. Note especially pages 2-3 of the machine translation of the specification in this regard.

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8. Any inquiry concerning this communication should be directed to examiner

George A. Goudreau at telephone number (571)-272-1434.


George A. Goudreau
Primary Examiner
Art Unit 1763